

## IMS Young Mathematical Scientists Forum — Applied Mathematics (08 Jan 2024–11 Jan 2024)

Name & Affiliation	Talk Title
Chenglong Bao Tsinghua University, China	Robust AI-aided Imaging Models without Labeled Samples
Zhenning Cai National University of Singapore, Singapore	Symmetric Gauss-Seidel method for the steady-state Boltzmann equation
Dongdong Chen University of Edinburgh, UK	Equivariant Imaging: Learning to image without ground truth
Zhiyan Ding University of California, Berkeley, USA	Quantum phase estimation and Signal processing
Sebastian Goldt International School of Advanced Studies (SISSA), Italy	Learning from higher-order correlations, efficiently
Jiequn Han Flatiron Institute, USA	Designing High-Dimensional Closed-Loop Optimal Control Using Deep Neural Networks
Marko Hans Weber National University of Singapore, Singapore	General Equilibrium with Unhedgeable Fundamentals and Heterogeneous Agents
Nguyen Hung Minh Tran National University of Singapore, Singapore	Transformers Meet Image Denoising: Mitigating Over-smoothing in Transformers via Regularized Nonlocal Functionals
David Itkin Imperial College London, UK	Are linear strategies nearly optimal when trading with superlinear transaction costs?
Lexiao Lai Columbia University, USA	Global stability of first-order methods for coercive tame functions
Buyang Li The Hong Kong Polytechnic University, China	Parametric finite element approximations of surface evolution in geometric flow
Qianxiao Li National University of Singapore, Singapore	On dynamics and learning
Jingwei Liang Shanghai Jiao Tong University, China	Partial Smoothness: from Functions to Sub-differentials and Beyond

Name & Affiliation	Talk Title
Ting Lin Peking University, China	Universal Approximation and Expressive Power of Deep Neural Networks
Georg Maierhofer University of Cambridge, UK	Structure-preserving low-regularity integrators for dispersive nonlinear equations
Qing Qu University of Michigan, USA	Invariant Low-Dimensional Subspaces in Gradient Descent for Learning Deep Networks
Zhenjie Ren Université Paris-Dauphine, France	Regularized Mean Field Optimization with Application to Neural Networks
Leandro Sánchez-Betancourt University of Oxford, UK	Automated Market Makers Designs beyond Constant Functions
Yongsheng Soh National University of Singapore, Singapore	Group Invariant Regularizers
Xin Tong National University of Singapore, Singapore	Ensemble Kalman inversion for high dimensional problems
Ruiyi Yang Princeton University, USA	Optimization on Manifolds via Graph Gaussian Processes
Douglas Dongzhuo Zhou Shanghai Jiao Tong University, China	Model Reduction of Spatial Neurons through Biophysical Modeling and Data-driven Approaches